APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,115	01/03/2002	Hideo Asano	ARC920010055US1	8776

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EXAMINER
FIGUEROA, NATALIA

ART-UNIT	PAPER NUMBER
2651	

DATE MAILED: 12/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/040,115	ASANO ET AL.
	Examiner	Art Unit
	Natalia Figueroa	2651

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.

2a) ☐ This action is **FINAL.**   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-9* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1,2,4,5,7 and 9* is/are rejected.

7) ☒ Claim(s) *3, 6 and 8* is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
        application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application)
    since a specific reference was included in the first sentence of the specification or in an Application Data Sheet.
    37 CFR 1.78.
    a) ☐ The translation of the foreign language provisional application has been received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific
    reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2* .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the

claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

claims was commonly owned at the time any inventions covered therein were made absent any

evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c)

and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1.   Claims 1, 5 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Tetsuya (EPO 0481752 A1) in view of Takashi et al (USPN 6,519,715).

Regarding claim 1: Tetsuya discloses a method for encoding and decoding blocks having a

predetermined number of sectors of data bytes to detect and correct data bytes in error in each

sector of a block, the method comprising the step of:

(a) generating sector level check bytes for each sector in the block responsive to the data

bytes in each sector according to a first level of an error correction code, and generating block

level check bytes for at least one sector in the block responsive to the sector level check bytes of

at least two sectors, including the at least one sector, according to at least a second level of the

error correction code (abstract and fig. 5 and disclosure thereof).

Tetsuya fails to explicitly teach the step of (b) processing the block to detect and correct

data bytes in error in each sector within the capability of the sector level check bytes, to detect

and correct data bytes in error in the at least two sectors that exceed the correction capability of

the sector level check bytes but within the correction capability of the block level check bytes, or

to indicate that the data bytes in error in the at least two sectors exceed the correction capability

of each of the sector level check bytes and the block level check bytes. However, Takashi et al

disclose such on (col. 13, lines 38-57).

Therefore, it would have been obvious to one having ordinary skill in the art at the time

the invention was made to modify the apparatus as disclosed by Tetsuya with the above

teachings from Takashi et al to include capability means to correct errors, hence selecting the

right capability to correct errors and maximizing data storage.

Regarding claim 5: Tetsuya further discloses that the blocks represent audio and visual

information (col. 1. lines 24-25).

Regarding claim 9: Apparatus claim 9 is drawn to the apparatus corresponding to the

method of using same as claimed in claim 1. Therefore apparatus claim 9 corresponds to method

claim 1, and is rejected for the same reasons of obviousness as used above.

2.   Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tetsuya

and Takashi et al as applied to claim 1 above, and further in view of Lee (USPN 6,405,342).

Regarding claim 2: Tetsuya and Takashi et al are relied upon for the same reasons as stated

in the above rejections. Tetsuya and Takashi et al fail to explicitly teach the method further

re-generating the block level check bytes for the at least one sector responsive to the data bytes

in error detected in each sector. However, Lee discloses such on (col. 14, lines 46-63).

Therefore, it would have been obvious to one having ordinary skill in the art at the time

the invention was made to modify the apparatus as disclosed by Tetsuya and Takashi et al with

the above teachings from Lee to include the regeneration of bytes, hence correcting errors and

maximizing the data storage.

3.   Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tetsuya

and Takashi et al as applied to claim 1 above, and further in view of Ofer et al (USPN

5,719,885).

Regarding claim 4: Tetsuya and Takashi et al fail to explicitly teach that each sector has

512 data bytes and each block has eight sectors. However, Ofer et al disclose such on (col. 2,

lines 1-10). Therefore, it would have been obvious to one having ordinary skill in the art at the

time the invention was made to modify the apparatus as disclosed by Tetsuya and Takashi et al

with the above teachings from Ofer et al to choose data storage parameters that are common in

the art, hence making the system compatible to other systems.

4.   Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tetsuya

and Takashi et al as applied to claim 1 above, and further in view of Hashimoto et al (USPN

5,864,440).

Regarding claim 7: Tetsuya and Takashi et al fail to explicitly teach the method further

receiving logical block addresses (LBAs) from a host operating system for each write/read

command, wherein the LBAs are translated into physical locations within blocks located on a

track of a moving storage medium of a data storage device; controlling the step of generating

when writing data bytes responsive to the LBAs; and controlling the step of processing when

reading data bytes responsive to the LBAs. However, Hashimoto et al disclose such on (col. 4,

lines 32-42 and col. 5, lines 43-50).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the

invention was made to modify the apparatus as disclosed by Tetsuya and Takashi et al with the

above teachings from Hashimoto et al to include LBAs to control the reading and writing of

byte, hence recognizing the sectors with errors and skipping them for better function of the

system.

Allowable Subject Matter

5.   Claims 3, 6 and 9 are objected to as being dependent upon a rejected base claim,

but would be allowable if rewritten in independent form including all of the limitations of the

base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 3: The prior art of record, and in particular Tetsuya (EPO 0481752 A1),

fails to teach or suggest a method for encoding and decoding disabling the step of generating

the block level check bytes when the write command is fragmented and is less than or equal to

one multi-sector block of data bytes.

Regarding claim 6: Regarding claim 3: The prior art of record, and in particular Tetsuya

(EPO 0481752 A1), fails to teach or suggest a method for encoding and decoding wherein the at

least two sectors are adjacent to each other.

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. Sato et al (USPN 6,496,311): Recording/Reproducing of AV-data. Chung

et al (USPN 6,239,931): Error correction capability. Yang (USPN 6,163,871): Error correction

code encoding.

7.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Natalia Figueroa whose telephone number is (703) 305-1260.

The examiner can normally be reached on Monday - Thursday 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, David R. Hudspeth can be reached on (703) 308-4825. The fax phone number for

the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is (703) 305-3900.

NFM

**DAVID HUDSPETH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600**